

Attention:

Amendments to the Construction Code Rules (Michigan Building Code) take effect February 29, 2004. All units of government who administer and enforce a construction code are required to use the rules promulgated under 1972 PA 230, the Stille-DeRossett-Hale Single State Construction Code Act. The Act was amended by 1999 PA 245, effective December 28, 1999, requiring the use of the State Codes as they are updated by rules promulgated after October 15, 1999.

R 408.30401 of the Michigan Administrative Code adopts by reference the International Building Code, 2003 edition, as published by the International Code Council, Inc. The subsequent rules either add, amend, or delete certain provisions of the International Building Code.

Copies of the International Building Code are available from the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041. Please visit the ICC website at <http://www.iccsafe.org/news/LVBOD.html> for specific instructions.

It is anticipated the Michigan Building Code books will be available in early May, at a cost of \$65.00, from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, P.O. Box 30255, Lansing, Michigan 48909. Please make checks payable to the State of Michigan. A copy of the Codes and Standards Order Form may be downloaded from the bureau web site at www.michigan.gov/bccfs or you may call 517/241-9313 to obtain a copy of the form.

Additional information relating to code administration and enforcement in the State of Michigan is available on the Bureau of Construction Codes and Fire Safety's web site www.michigan.gov/bccfs.

(By authority conferred on the director of the department of labor & economic growth by section 4 of 1972 PA 230 and Executive Reorganization Order No. 1996-2, MCL 125.1504 and 445.2001 and Executive Reorganization Order No. 2003-1, MCL 445.2011)

R 408.30401, R 408.30404, R 408.30408, R 408.30409, R 408.30410, R 408.30411, R 408.30412, R 408.30415a, R 408.30427, R 408.30429a, R 408.30437, R 408.30443, R 408.30445, R 408.30447, R 408.30448d, R 408.30449, R 408.30458, R 408.30475, R 408.30499, R 408.30503, R 408.30505, R 408.30506, R 408.30508, R 408.30510, R 408.30511, R 408.30512, R 408.30513, R 408.30514, R 408.30515, R 408.30517, R 408.30518, R 408.30519, R 408.30520, R 408.30521, R 408.30522, R 408.30523, R 408.30524, R 408.30526, R 408.30531, R 408.30534, R 408.30536, and R 408.30537 of the Michigan Administrative Code are amended, R 408.30414, R 408.30416, R 408.30417, R 408.30418, R 408.30419, R 408.30420, R 408.30421, R 408.30444, R 408.30539, R 408.30540, R 408.30541, R 408.30542, R 408.30543, R 408.30544, R 408.30545, R 408.30546, and R 408.30547 are added to the Code, and R 408.30406, R 408.30461, and R 408.30495a of the Code are rescinded as follows:

R 408.30401 Applicable code.

Rule 401. The provisions of the international building code, 2003 edition, including appendices F, G, and H, except for sections 104.8, 108.2 to 108.6, 112.2, 112.3, 114.3, 415.7.2.2 to 415.7.2.10, 415.7.3.1 to 415.7.3.5.2, table 1608.2, 2902 to 2902.6.2, 3006.5, the definition of "recreational vehicle" in Appendix G, and, IECC-2003, ICC EC-2003, IMC-2003, IPC-2003, IPSDC-2003 listed in chapter 35, and the provisions of the international residential code, 2003 edition, including appendices A, B, C, D, E, F, G, J, K, and L, except for sections R104.8, R108.2, R108.3, R108.4, R108.5, R112.3, N1101 to N1104.1, tables N1101.2, N1102.1, N1102.1.1.1(1), N1102.1.1.1(2), N1102.1.1.2, N1102.4, N1103.1, N1103.5, and N1104.1, sections P2503.8, P2709.2.1, AJ102.4, and IBC-2003, ICC EC-2003, IECC-2003, IMC-2003, IPC-2003, NFPA 70-02 listed in chapter 43 govern the construction, alteration, relocation, demolition, use, and occupancy of buildings and structures, and, with exceptions noted, the international building code and the international residential code as adopted by reference in these rules. All references to the International Building Code, International Residential Code, International Energy Conservation Code, International Electrical Code, International Existing Building Code, International Mechanical Code, and International

Plumbing Code mean the Michigan Building Code, Michigan Residential Code, Michigan Uniform Energy Code, Michigan Electrical Code, Michigan Rehabilitation Code for Existing Buildings, Michigan Mechanical Code, and Michigan Plumbing Code respectively. The codes are available for inspection at the Okemos office of the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety. The codes may be purchased from the International Code Council, 5203 Leesburg Pike, Suite 600, Falls Church, VA 22041, or from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864, at a cost as of the time of adoption of these amendatory rules of \$65.00 and \$45.00, respectively.

The following rules were rescinded from this rule set: R 408.30406, R 408.30461, and R 408.30495a.

PART 4. BUILDING CODE

R 408.30402 Title.

101.1. Title. These rules shall be known as the Michigan building code, hereinafter referred to as "the code."

R 408.30404 Approval.

104.9. Approved materials and equipment. Materials, equipment, and devices shall be constructed or installed in accordance with approvals granted under section 21 of 1972 PA 230, MCL 125.1521 or by the building official.

R 408.30405 Professional architectural and engineering services.

106.1. Submittal documents. Construction documents, special inspection and structural programs and other data shall be submitted in 1 or more sets with each application for a permit. The construction documents shall be prepared by, or under the direct supervision of, a registered design professional when required by article 20 of 1980 PA 299, MCL 339.101 et seq. Where special conditions exist, the building official is authorized to require additional construction documents to be prepared by a registered design professional.

R 408.30406 Rescinded.

R 408.30408 Fees.

108.1. Payment of fees. The fees prescribed by section 22 of 1972 PA 230, MCL 125.1522, shall be paid to the enforcing agency of the jurisdiction before a permit to begin work for new construction, alteration, removal, demolition, or other building operation may be issued. In addition, an amendment to a permit necessitating an additional fee shall not be approved until the additional fee has been paid.

R 408.30409 Permit.

105.1.1. Annual permit. In place of an individual permit for each alteration to an already approved electrical, gas, mechanical, or plumbing installation, the enforcing agency is authorized to issue an annual permit upon application therefore to any person, firm, or corporation. The applicant shall be licensed in accordance with the requirements of 1956 PA 217, MCL 338.881 et seq., 1984 PA 192, MCL 338.971 et seq., or 2002 PA 733, MCL 338.3511 et seq.

105.1.2. Annual permit records. The person to whom an annual permit is issued shall keep a detailed record of alterations made under an annual permit. Access to the records shall be provided at all times and the records shall be filed with the enforcing agency.

105.2. Work exempt from permit. Exemptions from permit requirements of the code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of the code or any other laws or ordinances of this jurisdiction. Permits shall not be required for any of the following:

(a) Building permits shall not be required for any of the following:

- (i) One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15m²).
 - (ii) A fence that is not more than 6 feet (1829 mm) high.
 - (iii) Oil derricks.
 - (iv) A retaining wall that is not more than 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding class I, II or III-A liquids.
 - (v) A water tank supported directly upon grade if the capacity is not more than 5,000 gallons (18 927 L) and the ratio of height to diameter or width is not greater than 2 to 1.
 - (vi) A sidewalk or driveway that is not more than 30 inches (762 mm) above grade and is not over any basement or story below and which are not part of an accessible route.
 - (vii) Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
 - (viii) Temporary motion picture, television and theater stage sets and scenery.
 - (ix) Prefabricated swimming pools accessory to a group R-3 occupancy, as applicable in section 101.2, which are less than 24 inches (610 mm) deep, do not exceed 5,000 gallons (19 000 L) and are installed entirely above ground.
 - (x) Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
 - (xi) Swings and other playground equipment accessory to 1- and 2-family dwellings.
 - (xii) Window awnings supported by an exterior wall which do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support of group R-3, as applicable in section 101.2 and group U occupancies.
 - (xiii) Movable cases, counters, and partitions.
- (b) Electrical permits shall not be required for any of the following:
- (i) Repairs and maintenance: Minor repair work, including the replacement of lamps or the connection of approved portable electrical equipment to approved permanently installed receptacles.
 - (ii) Radio and television transmitting stations: The provisions of the code do not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply and to the installation of towers and antennas.
 - (iii) Temporary testing systems: A permit is not required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.
- (c) Mechanical permits shall not be required for any of the following:
- (i) Portable gas heating appliance.
 - (ii) Replacement of any minor part that does not alter approval of equipment or make the equipment unsafe.
 - (iii) Portable heating appliance.
 - (iv) Portable ventilation equipment.
 - (v) Portable cooling unit.
 - (vi) Steam, hot or chilled water piping within any heating or cooling equipment regulated by the code.
 - (vii) Replacement of any part that does not alter its approval or make it unsafe.
 - (viii) Portable evaporative cooler.

(ix) Self-contained portable refrigeration unit that is not more than 1.5 horsepower (1119 W).

(d) Plumbing permits shall not be required for any of the following:

(i) The stopping of leaks in drains, water, soil, waste, or vent pipe. However, if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the drain or pipe with new material, then the work is considered new work and a permit shall be obtained and inspection made as provided in the code.

(ii) The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, if the repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

R 408.30410 Violations.

113.4. Violation penalties. It is unlawful for any person, firm, or corporation to violate a provision of the code or fail to conform with any of the requirements thereof, or erect, construct, alter, extend, repair, move, remove, demolish, or occupy any building, structure, or equipment regulated by the code, or cause work to be performed or done, in conflict with or in violation of the approved construction documents or directive of the enforcing agency, or a permit or certificate issued under the code. A violator shall be assessed a fine in accordance with section 23 of 1972 PA 230, MCL 125.1523.

R 408.30411 Stop-work order.

114.2. Notice to owner. Upon notice from the enforcing agency, work on any building or structure that is being done contrary to the code or in a dangerous or unsafe manner shall immediately cease. Notice shall be in accordance with section 12 of 1972 PA 230, MCL 125.1512. A person who is served with a stop work order, except for work that the person is directed to perform to remove a violation or unsafe condition is subject to the penalty provisions prescribed in section 23 of 1972 PA 230, MCL 125.1523.

R 408.30412 Certificate of use and occupancy.

110.1. Use and occupancy. A building or structure shall not be used or occupied, and a change in the existing occupancy classification of a building or structure or portion thereof shall not be made until a certificate of occupancy has been issued in accordance with section 13 of 1972 PA 230, MCL 125.1513.

R 408.30414 Means of Appeal.

112.1 Means of appeal. A person may appeal a decision of the enforcing agency to the board of appeals. An application for appeal shall be based on a claim that the true intent of the code or the rules governing construction have been incorrectly interpreted, the provisions of the code do not apply, or an equal or better form of construction is proposed. The application shall be filed in accordance with section 14 of 1972 PA 230, MCL 125.1514.

R 408.30415a Definitions.

202. Definitions.

"Building" means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words "or part or parts of the building and all equipment in the building" unless the context clearly requires a different meaning.

"Building official" means the person who is appointed and employed by a governmental subdivision charged with the administration and enforcement of the state code or codes and who is registered in accordance with the requirements of 1986 PA 54, MCL 338.2301 et seq.

"Registered design professional" means an individual who is licensed under article 20, 1980 PA 299, MCL 339.2001 et seq.

"Structure" means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner. Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction including without limitation any of the following:

- (a) A highway.
- (b) A bridge.
- (c) A dam.
- (d) A reservoir.
- (e) A lock.
- (f) A mine.
- (g) A harbor.
- (h) A dockside port facility.
- (i) An airport landing facility.
- (j) A facility for the generation, or transmission, or distribution of electricity.

Structure shall be construed as though followed by the words "or part or parts of the structure and all equipment in the structure," unless the context clearly indicates otherwise.

R 408.30416 Area and height increases.

406.3.6. Area and height increases. The allowable area and height of open parking garages shall be increased in accordance with the provisions of this section. Garages with sides open on 3/4 of the building perimeter are permitted to be increased by 25% in area and 1 tier in height. Garages with sides open around the entire building perimeter are permitted to be increased 50% in area and 1 tier in height. For a side to be considered open under the provisions of this rule, the total area of openings along the side shall not be less than 50% of the interior area of the side at each tier, and such openings shall be equally distributed along the length of the tier.

Allowable tier areas in table 406.3.5 shall be increased for open parking garages constructed to heights less than the table maximum. The gross tier area of the garage shall not exceed that permitted for the higher structure. At least 3 sides of each such larger tier shall have continuous horizontal openings not less than 30 inches (762 mm) in clear height extending for at least 80% of the length of the sides, and no part of such

larger tier shall be more than 200 feet (60 960mm) horizontally from such an opening. In addition, each such opening shall face a street or yard accessible to a street with a width of at least 30 feet (9144 mm) for the full length of the opening, and standpipes shall be provided in each such tier.

Open parking garages of type II construction, with all sides open, shall be unlimited in allowable area where the height does not exceed 75 feet (22 860 mm). For a side to be considered open, the total area of openings along the side shall not be less than 50% of the interior area of the side at each tier, and such openings shall be equally distributed along the length of the tier. All portions of tiers shall be within 200 feet (60 960 mm) horizontally from such openings.

R 408.30417 High-rise buildings.

907.2.12. High-rise buildings. Buildings having floors used for human occupancy located more than 55 feet (16 764 mm) above the lowest level of fire department vehicle access shall be provided with an automatic fire alarm system and an emergency voice/alarm communication system in accordance with section 907.2.12.2.

Exceptions:

1. Airport traffic control towers in accordance with sections 412 and 907.2.22.
2. Open parking garages in accordance with section 406.3.
3. Buildings with an occupancy in group A-5.
4. Low-hazard special occupancies in accordance with section 503.1.2.
5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415.

907.8.2. High-rise buildings. In buildings used for human occupancy that have floors located more than 55 (16 764 mm) above the lowest level of fire department vehicle access, a separate zone by floor shall be provided for all of the following types of alarm-initiating devices where provided:

1. Smoke detectors.
2. Sprinkler water-flow devices.
3. Manual fire alarm boxes.
4. Other approved types of automatic fire detection devices or suppression systems.

R 408.30418 Maximum floor area allowances per occupant.

Table 1004.1.2

MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT

OCCUPANCY	FLOOR AREA IN SQ. FT. PER OCCUPANT
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See section 1004.7
Assembly without fixed seats	
Concentrated (chairs only-not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms-other than fixed seating areas	40 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Locker rooms	15 gross
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Accessory storage areas, mechanical equipment room	300 gross

Warehouses	500 gross
For SI: 1 square foot = 0.0929 m ²	

R 408.30419 Stadiums.

1008.2.1. Stadiums. Panic hardware is not required on gates surrounding stadiums where such gates are under constant immediate supervision while public is present, and further provided that safe dispersal areas based on 3 square feet (0.28 m²) per occupant are located between the fence and enclosed space. Such required safe dispersal areas shall not be located less than 50 feet (15 240 mm) from the enclosed space.

R 408.30421 Emergency escape and rescue.

1025.1 General. In addition to the means of egress required by this chapter, provisions shall be made for emergency escape and rescue in group R as applicable in section 101.2, classrooms greater than 250 feet² (23.2 m²) in group E, and group I-1 occupancies. Basements and sleeping rooms below the fourth story above grade plane shall have at least 1 exterior emergency escape and rescue opening in accordance with this section. Where basements contain 1 or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such opening shall open directly into a public street, public alley, yard, or court.

Exceptions:

1. In other than group R-3 occupancies as applicable in section 101.2, buildings equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1 or 903.3.1.2.
2. In other than group R-3 occupancies as applicable in section 101.2, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to 2 remote exits in opposite directions.
3. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.
4. Basements with a ceiling height of less than 80 inches (2032 mm) shall not be required to have emergency escape and rescue windows.
5. High-rise buildings in accordance with section 403.
6. Emergency escape and rescue openings are not required from basements or sleeping rooms which have an exit door or exit access door that opens directly into a public street, public alley, yard, egress court, or to an exterior exit balcony that opens to a public street, public alley, yard, or egress court.
7. Basements without habitable spaces and having not more than 200 square feet (18.6 square meters) in floor area shall not be required to have emergency escape windows.

R 408.30427 Barrier free design for buildings, structures, and improved areas.

1101.2 Design. Buildings and facilities shall be designed and constructed to be accessible in accordance with this code and ICC A 117.1, except sections 611 and 707.

1109.7 Lifts. Platform (wheelchair) lifts are permitted to be a part of a required accessible route in new construction where indicated in items 1 to 7. Platform

(wheelchair) lifts shall be installed in accordance with the Michigan elevator code, R 408.8101 to R 408.8695.

1. An accessible route to a performing area and speakers' platforms in occupancies in group A.
2. An accessible route to wheelchair spaces required to comply with the wheelchair space dispersion requirements of sections 1108.2.2 to 1108.2.4.
3. An accessible route to spaces that are not open to the general public with an occupant load of not more than 5.
4. An accessible route within a dwelling or sleeping unit.
5. An accessible route to wheelchair seating spaces located in outdoor dining terraces in A-5 occupancies where the means of egress from the dining terraces to a public way are open to the outdoors.
6. An accessible route to raised judges' benches, clerks' stations, jury boxes, witness stands, and other raised or depressed areas in a court.
7. An accessible route where existing exterior site constraints make use of a ramp or elevator infeasible.

1103.2.15. Military, fire service, and police facilities. Housing, bathing, toilet, training, and storage areas intended for use and occupancy exclusively by military, fire service, police, or security personnel required to be physically agile are not required to be accessible.

R 408.30429 High-rise buildings.

403.1. Applicability. The provisions of this section shall apply to buildings having the occupied floors located more than 55 feet above the lowest level of fire department vehicle access.

Exception: The provisions of this section shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with section 412 of the code.
2. Opening parking garages in accordance with section 406.3 of the code.
3. Buildings with an occupancy in group A-5 in accordance with section 303.1 of the code.
4. Low-hazard special industrial occupancies in accordance with section 503.1.2 of the code.
5. Buildings with an occupancy in group H-1, H-2, or H-3 in accordance with section 415 of the code.
6. Existing buildings having occupied floor levels not more than 75 feet above the lowest level of fire department vehicle access where the local unit of government complies with the following:
 - 6.1. The local unit of government has a municipal fire department with an ISO rating of 3 or lower, employing a full time career fire fighting staff.
 - 6.2. The governing body of the local unit of government has passed a resolution affirming the use of this exception and filed that resolution with the department of consumer and industry services, bureau of construction codes.

R 408.30429a Compliance.

3410.1 Compliance. The provisions of this section are intended to maintain or increase the current degree of public safety, health, and general welfare in existing buildings while permitting repair, alteration, addition, and change of occupancy without requiring full compliance with chapters 2 through 33 of the code, or sections 3401.3 through 3407, except where compliance with other provisions of the code is specifically required in this section.

Exception: Buildings made to comply with the provisions of the Michigan rehabilitation code for existing buildings, R 408.30551 to R 408.30577, shall be deemed to comply with the requirements of the code.

3410.2 Applicability. Structures existing before November 6, 1974, in which work involving additions, alterations, or changes of occupancy shall be made to conform to the requirements of this section or the provisions of sections 3402 to 3406 of the code.

The provisions in sections 3410.2.1 to 3410.2.5 of the code shall apply to existing occupancies that will continue to be, or are proposed to be, in groups A, B, E, F, M, R, S, and U. These provisions shall not apply to buildings that have occupancies in group H or I.

R 408.30430 Liquefied petroleum gas distribution facilities.

415.7.3. Liquefied petroleum gas distribution facilities. The design and construction of propane, butane, propylene, butylene, and other liquefied petroleum gas distribution facilities shall conform to the applicable provisions of sections 415.7.3.1 to 415.7.3.5.2 of the code. The storage and handling of liquefied petroleum gas systems shall conform to the international fire code listed in chapter 35. The design and installation of piping, equipment, and systems that utilize liquefied petroleum gas shall be in accordance with the international fuel gas code listed in chapter 35. Liquefied petroleum gas distribution facilities shall be ventilated in accordance with the Michigan mechanical code, R 408.30901a to R 408.30998a, and the requirements of 1941 PA 207.

R 408.30432 Flammable and combustible liquids.

415.7.2. Flammable and combustible liquids. The storage, handling, processing, and transporting of flammable and combustible liquids shall be in accordance with the Michigan mechanical code, R 408.30901a to R 408.30998a, and the international fire code listed in chapter 35, and the requirements of 1941 PA 207.

R 408.30437 Truss design drawings.

2303.4.1 Truss design drawings. Truss construction documents shall be prepared by a registered design professional and shall be provided to the building official and approved prior to installation. These construction documents shall include, at a minimum, the following information. Truss shop drawings shall be provided with the shipment of trusses delivered to the job site.

1. Slope or depth, span and spacing.
2. Location of joints.
3. Required bearing widths.
4. Design loads as applicable.
5. Top chord live load (including snow loads).
6. Top chord dead load.

7. Bottom chord live load.
8. Bottom chord dead load.
9. Concentrated loads and their points of application.
10. Controlling wind and earthquake loads.
11. Adjustments to lumber and metal connector plate design value for conditions of use.
12. Each reaction force and direction.
13. Metal connector plate type, size, thickness or gage, and the dimensioned location of each metal connector plate except where symmetrically located relative to the joint interface.
14. Lumber size, species, and grade for each member.
15. Connection requirements are required for all of the following:
 - a. Truss to truss girder.
 - b. Truss ply to ply.
 - c. Field species.
16. Calculated deflection ratio or maximum deflection for live and total load.
17. Maximum axial compression forces in the truss members to enable the building designer to design the size, connections, and anchorage of the permanent continuous lateral bracing. Forces shall be shown on the truss construction documents or on supplemental documents.
18. Required permanent truss member bracing location.

R 408.30443 Masonry

1405.3.2. Masonry. Flashing and weep holes shall be located in the first course of masonry above finished ground level above the foundation wall or slab; at the heads of windows, doors, and other wall openings; at window sills and at other points of support including structural floors, shelf angles, and lintels where anchored veneers are designed in accordance with section 1405.5. Flashing shall extend to, or beyond, the finished face of the wall.

R 408.30444. Water -resistive barrier.

1404.2. Water-resistive barrier. A minimum of 1 layer of No. 15 asphalt felt, complying with ASTM D 226, as listed in chapter 43, for type 1 felt, shall be attached to the studs or sheathing, with flashing as described in section 1405.3, in such a manner as to provide a continuous water-resistive barrier behind the exterior wall veneer.

R 408.30445 Automatic sprinkler systems.

903.2.10.3. Buildings more than 30 feet in height. An automatic sprinkler system shall be installed throughout a building that has a floor level which has an occupant load of 30 or more occupants and which is located 30 feet or more above the lowest level of fire department vehicle access.

Exceptions:

1. Airport control towers.
2. Open parking structures.
3. Occupancies in group F-2.

4. Existing buildings having occupied floor levels not more than 55 feet in height above the lowest level of fire department vehicle access, where the local unit of government complies with the following parameters:

4.1. The local unit of government having a municipal fire department with an ISO rating of 3 or lower, employing a full time career fire fighting staff.

4.2. The governing body of the local unit of government has passed a resolution affirming the use of this exception and filed that resolution with the department of labor & economic growth, bureau of construction codes and fire safety.

R 408.30447 Smokeproof enclosures.

1019.1.8. Smokeproof enclosures. In buildings required to comply with section 403 or 405 of the code, each of the exits of a building that serves stories where the floor surface is located more than 55 feet (16,764 mm) above the lowest level of fire department vehicle access or more than 30 feet (9,144 mm) below the level of exit discharge serving such floor levels shall be a smokeproof enclosure or pressurized stairway in accordance with section 909.20 of the code.

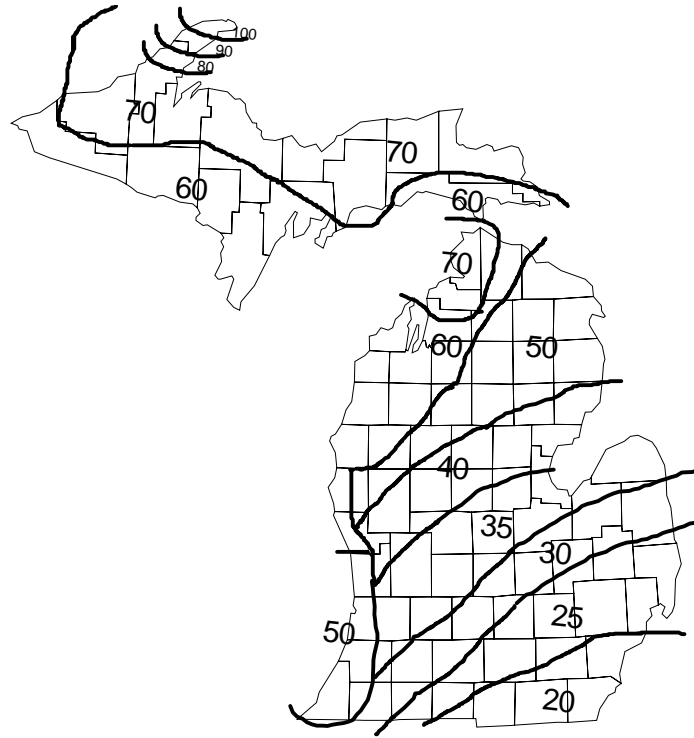
R 408.30448 Electrical.

2701.1 Scope. This chapter governs the electrical components, equipment, and systems used in buildings and structures covered by the code. Electrical components, equipment, and systems shall be designed and constructed in accordance with the Michigan electrical code, R 408.30801 to R 408.30880.

2702.1. Installation. Emergency and standby power systems shall be installed in accordance with the Michigan electrical code, R 408.30801 to R 408.30880.

R 408.30448d Ground snow loads.

FIGURE 1608.2
Ground Snow Loads



R 408.30449 Frost protection.

1805.2.1. Frost protection. Except where otherwise protected from frost, foundation walls, piers, and other permanent supports of buildings and structures shall be protected from frost by at least one of the following methods:

1. Extending not less than 42 inches below finish grade.
2. Constructing in accordance with ASCE-32 listed in chapter 35.
3. Erecting on solid rock.

Exceptions:

1. Free-standing buildings meeting all of the following conditions shall not be required to be protected:

- a. Classified in importance category I (see table 1604.5).
- b. Area of 400 square feet (37 m²) or less.
- c. Eave height of 10 feet (3048 mm) or less.

2. Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:

- a. Freezing temperatures.
- b. Soil type.
- c. Groundwater conditions.
- d. Snow depth experience.
- e. Exposure to the elements.
- f. Other specific conditions identified by the building official that may affect the foundation system.

Footings shall not bear on frozen soil unless such frozen condition is of a permanent character.

R 408.30451c. Flood zones.

1612.4. Design and construction. Buildings and structures located in flood hazard areas subject to high velocity wave action shall be designed and constructed in accordance with ASCE 24 listed in chapter 35. Type II buildings identified by ASCE shall have the lowest floors elevated 1 foot above design flood elevations. Type III and IV buildings shall have the lowest floors elevated 1 foot above the 500-year flood level.

R 408.30453 Plumbing systems.

2901.1. Scope. The provisions of this chapter and the Michigan plumbing code, R 408.30701 to R 408.30796, shall govern the erection, installation, alteration, repairs, relocation, replacement, addition to, use or maintenance of, plumbing equipment and systems. Plumbing systems and equipment shall be constructed, installed, and maintained in accordance with the Michigan plumbing code, R 408.30701 to R 408.30796.

R 408.30457 Mechanical systems.

2801.1. Scope. Mechanical appliances, equipment, and systems shall be constructed, installed, and maintained in accordance with the Michigan mechanical code, R 408.30901a to R 408.30998a, and the international fuel gas code listed in chapter 35. Masonry chimneys, fireplaces, and barbeques shall comply with the Michigan mechanical code, R 408.30901a to R 408.30998a, and chapter 21 of the code.

R 408.30458 Elevators and conveying systems.

3001.1. Scope. The design, construction, installation, alteration, and repair of elevators and conveying systems and their equipment shall conform with the requirements of the Michigan elevator laws and rules, MCL 408.801 et seq., MCL 338.2151 et seq., and R 408.8101 to R 408.8695 and this chapter. Installation or construction in flood hazard areas established in section 1612.3 shall comply with ASCE 24 listed in chapter 35.

3001.2. Other devices. Other devices shall conform to the requirements of sections 3001.2.1 and 3001.2.2 of the code.

3001.2.1. Conveyors. Conveyors and related equipment shall conform to the requirements of ASME B20.1 listed in chapter 35.

3001.2.2. Automotive lifts. Automotive lifts shall conform to the requirements of ALI ALCTV listed in chapter 35.

3001.4. Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from 1 freight class to another freight class shall comply with the requirements of the Michigan elevator code, R 408.8101 to R 408.8695.

3002.5. Emergency doors. Where an elevator is installed in a single blind hoistway or on the outside of a building, there shall be installed in the blind portion of the hoistway or blank face of the building, an emergency door in accordance with the requirements of the Michigan elevator code, R 408.8101 to R 408.8695.

3002.6. Prohibited doors. Doors, other than hoistway doors and the elevator car door, shall be prohibited at the point of access to an elevator car.

3003.2 Fire-fighters' emergency operation. Elevators shall be provided with phase I emergency recall operation and phase II emergency in-car operation in accordance with the requirements of the Michigan elevator code, R 408.8101 to R 408.8695.

3004.5. Plumbing and mechanical systems. Plumbing and mechanical systems shall not be located in an elevator shaft.

Exception: Floor drains, sumps, and sump pumps exclusively for draining the elevator pit shall be permitted at the base of the shaft provided they are indirectly connected to the plumbing system.

3004.6. Construction at bottom of hoistway. Pits extending to the ground shall have noncombustible floors and be designed as to prevent entry of ground water into the pit. The pit floor of any hoistway not extending to the ground shall be of fire-resistive construction having a fire-resistance rating at least equal to that required for the hoistway enclosure.

R 408.30461 Rescinded.

R 408.30475 Existing structures.

3409.1. Scope. The provisions of sections 3409.2 to 3409.8.5 of the code apply to the maintenance, change of occupancy, additions, and alterations to existing buildings, including those identified as historic buildings in accordance with 1966 PA 1, MCL 125.1351 et seq.

3409.3. Change of occupancy. Unless technically infeasible, section 3409.5 of the code shall be applied in accordance with 1966 PA 1, MCL 125.1351 et seq.

3409.5. Alterations. A building, facility, or element that is altered shall comply with the applicable provisions in chapter 11 of the code and ICC/ANSI A117.1 listed in chapter 35, unless technically infeasible. When compliance with this section is technically infeasible, then the alteration shall provide access to the maximum extent technically feasible.

Exceptions:

1. The altered element or space is not required to be on an accessible route, unless required by section 3409.6 of the code.
2. Accessible means of egress required by chapter 10 of the code are not required to be provided in existing buildings and facilities.
3. Buildings, structures, or improved areas which exist on or before the effective date of these rules and which are in compliance with the code at the time of the issuance of the certificate of occupancy unless the alteration specifically modifies an area covered by sections 3409.6 to 3409.8.5 of the code.

3409.6. Alterations affecting an area containing a primary function. When an alteration affects the accessibility to, or contains an area of primary function, then the route to the primary function area shall be accessible. The accessible route to the primary function shall include accessible toilets and drinking fountains serving the area of the primary function.

Exceptions:

1. The costs of providing the accessible route is not required to exceed 20% of the costs of the alterations affecting the area of primary function.

2. This section does not apply to alterations limited solely to windows, hardware, operating controls, electrical outlets, and signs.

3. This section does not apply to alterations limited solely to mechanical systems, electrical systems, the installation or alteration of fire-protection systems, and the abatement of hazardous materials.

4. This section does not apply to alterations undertaken for the primary purpose of increasing the accessibility of an existing building, facility, or element.

3409.7.2. Elevators. Altered elements of existing elevators shall comply with the Michigan elevator code, R 408.8101 to R 408.8695 and ICC A 117.1. Such elements shall also be altered in elevators programmed to respond to the same hall call control as the altered elevator.

R 408.30476 Exterior envelope requirements.

1301.1.1. General. Buildings shall be designed and constructed in accordance with the Michigan uniform energy code, part 10 rules, R 408.31001 to R 408.31099.

R 408.30495 Rodent proofing.

F101.1. General. Buildings or structures and the walls enclosing habitable or occupiable rooms and spaces in which people live, sleep, or work, or in which feed, food, or foodstuff is stored, prepared, processed, served, or sold shall be constructed in accordance with this section. Other buildings are subject to these requirements as provided in section F101.1.1 of the code.

F101.1.1. Additional buildings. In a community that has a vermin infestation program for the eradication of vermin enacted by local ordinance, all buildings identified within such an ordinance shall be constructed in accordance with this section.

R 408.30495a Rescinded.

R 408.30497 Signs.

H101.1.1. Local ordinances. A governmental subdivision that has sign regulations governing the placement, location, size, height, or setback from public right of ways shall govern such items.

H111.1. Materials. Wall signs shall be constructed of materials consistent with building materials governed by the type of construction as provided in chapter 6 of the code for the building or structure. Wall signs exceeding 40 square feet (3.72 m²) in area shall be constructed of metal or other approved noncombustible material, except for nailing rails and except as provided in sections H106.1.1 and H107.1 of the code.

R 408.30499 Adoption of standards by reference; referenced codes.

Rule 499. Chapter 35 of the code is amended to add the following referenced codes, which are available from the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes and Fire Safety, 2501 Woodlake Circle, Okemos, Michigan 48864:

(a) Michigan Electrical Code

R 408.30801 et seq., of the
Michigan Administrative Code.

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| (b) Michigan Mechanical Code | R 408.30901a et seq., of the Michigan Administrative Code. |
| (c) Michigan Plumbing Code | R 408.30701 et seq., of the Michigan Administrative Code. |
| (d) Michigan Uniform Energy Code | R 408.31061 et seq., of the Michigan Administrative Code. |
| (d) Michigan Elevator Code | R 408.8101 et seq., of the Michigan Administrative Code. |